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redefining flight

ALLSTEADY-7 GIMBAL MANUAL V1.1

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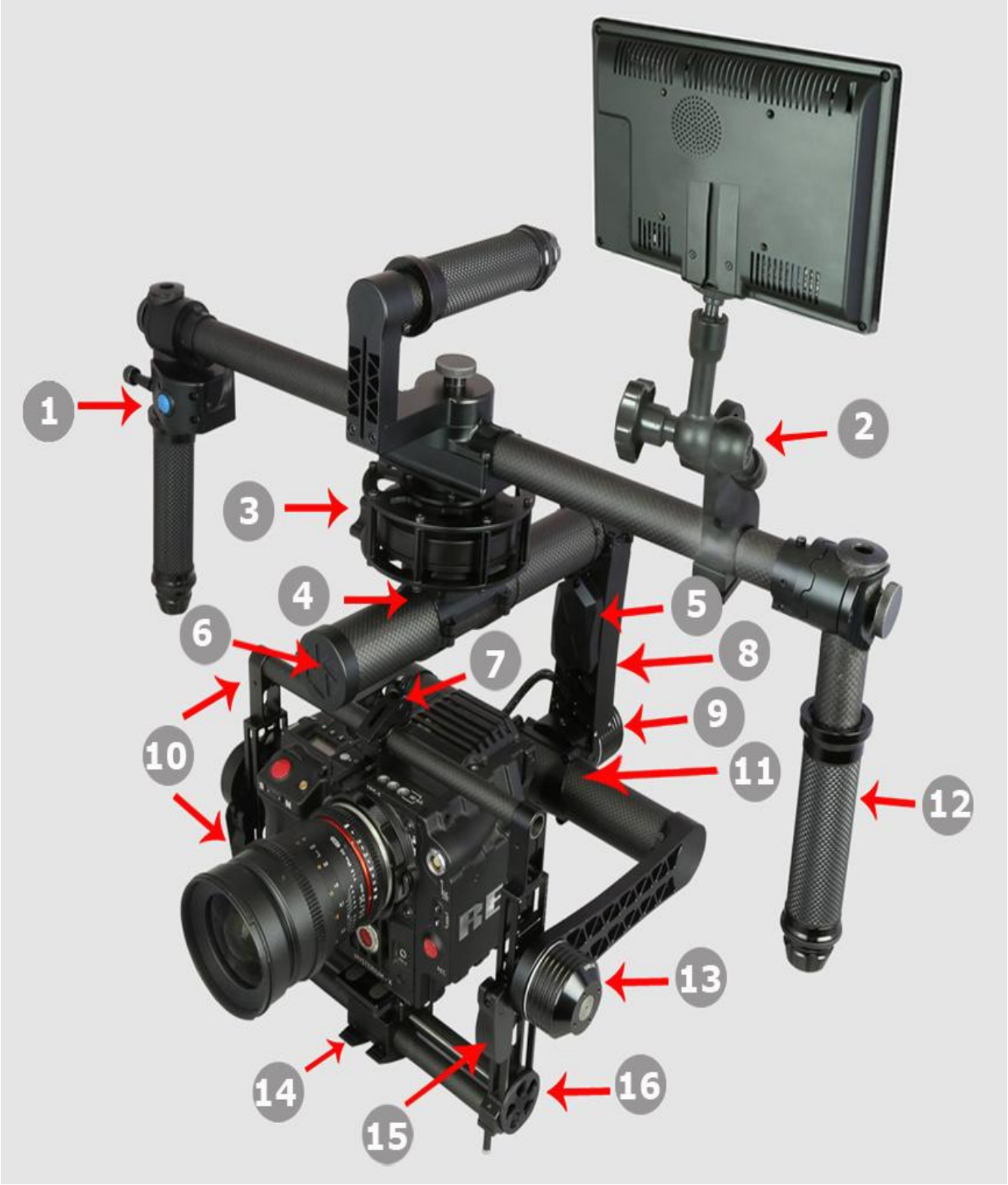


AllSteady-7 Diagram & Options:

❖ *Match the designated numbers from the picture on page **2** to the list on page **3***

1) Reversible Left/Right Handed Joystick Module

2) Monitor Bracket & Articulating Arm

3) Motor Cage & Ultra Resolution Pan-Axis Brushless Motor

4) No tools necessary for Pan-Axis CG Adjustment

5) Aux Electronic Compartment for 2nd Sensor & Optional Aux Power

6) Integrated Battery Compartment

7) Quick Release Camera Top Mount Bracket Adjustment

8) Main Electronic Compartment for 32Bit Alexmos Dual Sensor Controller

9) High Torque Roll-Axis Brushless Motor

10) Triple Carbon Boom Camera Tray (2 Bottom Booms + 1 Top Boom)

11) No tools needed for Macro-Roll Adjustment

12) Rubber Grip Handle Adjustable in 45° Increments

13) Tilt-Axis Brushless Motor with Anti-Twist Stopper

14) Double Quick Release Micro-Roll Adjustment Lock

15) Quick Release Vertical CG Adjustment

16) Tool-less Micro-Roll Adjustment wheel

❖ *Thank you for purchasing the AllSteady-7 Gimbal*

[Before getting started, please follow our balancing guide. We recommend you have your camera and accessories (i.e. filter, batteries, etc.) mounted before balancing the gimbal. If your lens has an adjustable zoom, set the zoom to the desired position before balancing.]

FOR YOUR CONSIDERATION

All TurboAce warranties, instructional manuals, or any miscellaneous documentation for the AllSteady-7 must be speculated. TurboAce does their best to resolve any technical errors in order to increase the overall efficiency of the AllSteady-7.

DISCLAIMER

While the AllSteady- 7 does not require a license to use, please regard this as an advanced cinema product that must be handled with caution and good judgment. A basic understanding of mechanical functions is needed in order to operate the AllSteady 7 safely and responsibly. Failure to do so could not only result in injury of yourself and others, but irreparable damage to your gimbal.

It is essential to read our User Manual to ensure a safe and smooth experience. Please note that this guide should be viewed "as is" and Turbo Ace will not be held responsible for any contrary interpretation made by the user that is different from what the manual intended. Turbo Ace reserves the right to adjust the manual when needed and is not committed to alert any user of such changes.

ALLSTEADY-7 WARRANTY

Turbo Ace offers a limited year warranty where all service and parts support is provided from Turbo Ace's warehouse and showroom located in Orange, California.

- **1 Year Limited Warranty on Parts**
- **30 Days Warranty on Parts & Labor**
- **30 Days Warranty on Battery**
- **30 Days Phone Support**

I. Quick Start Guide

WARNING BEFORE USE

1) Remove the gimbal from the box.

2) Make sure power is turned off at the back of the gimbal. The power switch is located at the back of the gimbal on top of the battery indicator. Pressing the "o" down will power the unit off.

3) Charge the battery by following the instruction on Section II. Remove the battery cap located in front of the pan motor at the end of the carbon tube. Insert the battery into the tube and plug in the battery connector. Replace the battery cap to the battery compartment tube.

4) Before setting the gimbal on the balancing stand, please follow the balancing stand setup on Section IV.

5) All gimbal requires balancing to establish center of gravity for each camera. When balance is not obtained, the gimbal will vibrate during operation. When that happens, please set gimbal on the stand and follow the balancing procedure on Section III.

6) Turn on the gimbal by pressing down the "I" on the power switch. Gimbal must be stationary during initialization. Gimbal cannot be moved during initialization. Before turning on the power, please set the gimbal down on the ground or on the balancing stand and prevent it from moving until the motors are initialized. When you see the motors twitch, initialization then been completed. You are now ready to use the gimbal.

7) When gimbal is initialized, it starts in mode #4. Please follow Section VI for detail on how these preprogrammed modes work.

8) The AllSteady 7 can be used in right side up or down configuration. Please see Section VII for detail.

II. Battery & Charger

Your AllSteady-7 comes with a smart lithium ion battery. There is a built-in controller in each battery pack that monitors the voltage during charging and discharging.

WARNING BEFORE USE

****Never** leave charger unattended, exceed maximum charge rate, charge with non-approved batteries or charge batteries in the wrong mode.

****Always** ensure the battery you are charging meets the specifications of this charger and that the charger settings are correct. Not doing so can result in excessive heat and other related product malfunctions, which can lead to user injury or property damage.

PLEASE DO NOT…

- …leave the power supply, charger and battery unattended during use.
- **…**attempt to charge dead, damaged or wet battery packs.
- …attempt to charge a battery pack containing different types of batteries.
- …allow minors to charge battery packs.
- …charge batteries in extremely hot or cold places or place in direct sunlight.
- …charge a battery if the cable has been pinched or shorted.
- …connect more than one battery pack to this charger at a time
- …connect the charger if the power cable has been pinched or shorted.
- …connect the charger to an automobile 12V battery while the vehicle is running.
- …attempt to dismantle the charger or use a damaged charger.
- …reverse the positive and negative terminals.
- …connect to AC power.

KEEP IN MIND TO ALWAYS…

- …power on the charger before connecting the battery
- …use only rechargeable batteries designed for use with this type of charger.
- …inspect the battery before charging.
- …keep the battery away from any material that could be affected by heat.
- …monitor the charging area and have a fire extinguisher available at all times.
- …end the charging process if the battery becomes hot to the touch or starts to change form (swell) during the charge process.

Failure to follow the advised steps while using this product will not only result in product malfunction, but can cause severe injury and property damage.

BATTERY CHARGING AND INSTALLATION:

1. Connect power supply to power source.
2. Connect charger to the battery
3. Locate the battery compartment which is in the top pan boom (the top pan boom is located on top of the gimbal).
4. Put the battery in compartment and hook up the connectors.
5. Install the battery cap; making sure the thumb screw on the cap is completely tightened. Turn on the power, and you are ready to operate.

We strongly recommend that you **DO NOT** turn on your gimbal

if your camera is not mounted.

III. BALANCING YOUR GIMBAL

We recommend you have your camera and accessories (i.e. filter, batteries, etc.) mounted **before balancing** the gimbal. If your lens has an adjustable zoom, set the zoom to the desired position before balancing.

There are 4 axes that need to be adjusted to ensure proper operation for the gimbal. They include the horizontal and vertical tilt, roll balance, and pan balance.

STEP 1: HORIZONTAL TILT

Balancing your gimbal horizontally (or front-to-back) is the first step to keep your camera level should you remove your hands. Users must consider that in order to achieve this goal, the camera and Tilt Axis need to be level. Since this is the first step, please note that the gimbal has not yet been balanced vertically for the Tilt Axis. With this being said, it can be assumed that it will only be possible to verify the horizontal tilt to be balanced once the camera and Tilt Axis are level. If the camera is situated too high or too low with respect to the Tilt Axis, it can easily obscure the issue of the horizontal tilt being imbalanced. To adjust the balance, please follow the directions below:

1) Loosen your tripod screw under the camera, allowing the camera and mount plate to slide forwards and backwards. **If you have the optional quick-release plate, loosen the knob as indicated on the picture below.

    a. (add picture from balancing manual)

2) If the camera tilts down lens-first, slide the camera backwards. If the camera tilts so the lens faces upwards, slide the camera forwards. Continue making incremental adjustments until the camera is leveled when facing straight.

3) Make sure to confirm that the clamp is **fully working** and the camera is securely mounted to the adjustable camera.

STEP 2: VERTICAL TILT

Once you have completed Step 1 in balancing your AllSteady-7 Gimbal, the Vertical (or up-and-down) balance. In order to adjust the vertical tilt, you must locate the 2 toggle clamps on the four side tubed. Adjust your camera's position vertically until it is balanced efficiently enough to rotate your camera to any tilt angle. Naturally it will stay wherever you position it. For example, if you point the lens down and you notice the tilt wanting to continue tilting forward on its own, then that is an indicator that it is "top heavy" and the camera needs to be shifted down vertically. Another example is if you point the camera lens down and it wants to return to its original position, then it is "bottom heavy" and your camera needs to be shifted upwards. Please follow the steps below:

1.) Observe which way you need to adjust your camera. You can do this by tipping the camera lens down 20 degrees. If the camera returns to horizontal, then the Tilt Axis is bottom heavy. If the camera continues to rotate down when left to stay in position, then the Tilt Vertical Axis is top heavy.
2.) Rotate the Tilt Axis so that your camera lens is facing straight up.

3.) Make sure to loosen the 2 vertical adjustment toggles.

4.) Slide your camera mount beam and camera horizontally until it remains pointing straight up once released.

5.) Be sure to tighten the toggles before going any further. Verify that you have adjusted your Vertical Tilt Axis by moving your camera to several tilt angles. If it holds or stays in the same place once your hands are released, then you are good to go!

STEP 3: ROLL BALANCE

Now that you're finished with the first two steps, your Tilt Axis should be completely balanced. Now you can start adjusting your Roll Axis. Notice that there are two probable areas to balance the Roll Axis. Usually it depends on the camera being used and package you received. Typically you would install the camera on the camera plate and fine-tune the "Roll balance adjustment point 1" side to side to gain roll balance. Should you run out of room regulating the roll balance on the camera platform, you can also adjust "Roll balance adjustment point 2". To fine-tune point 2, loosen the screws that are grip the roll beam to the roll motor. **Keep in mind** that the srews only need to be loosened slightly to have the roll beam slide back and forth. Once you have loosened the screws, slide the roll beam until the Roll Axis of the camera is balanced to your liking. To lock the roll beam in place, just tightened the screws back up.

1) Loosen the 2 outer brackets that adjust the camera. Slide the camera and platform back and forth to achieve proper balance.
2) Don't fret if you run out of room to adjust the balance. Locate the thumb screw on the roll beam and loosen them **only slightly**. Slide the entire assembly to gain a proper balance. Remember, the thumb screw doesn't need to be loosened all the way; just enough to allow the roll beam to slide freely. **DO NOT** over tighten the screws.
3) Regulate the balance by moving your Roll Axis to several locations. This will also ensure the axis will hold without your physical input.

STEP 4: PAN BALANCE

Being perhaps the most difficult axis to balance, we have left this as the last step for the AllSteay-7. The Pan Balance will ensure that the entire mass below the pan motor will be balanced on the central axis line of the pan motor. The simplest way to check for your Pan Axis to be balanced is tilt the gimbal in the stand and see which way the Pan Axis swings. The clamp that holds the vertical tube to the top horizontal tube is the only adjustment for Pan Axis balance. By sliding this joint forward and backwards and rotating slightly left to right, we can achieve proper Pan Balance. Please follow the step-by-step guide:

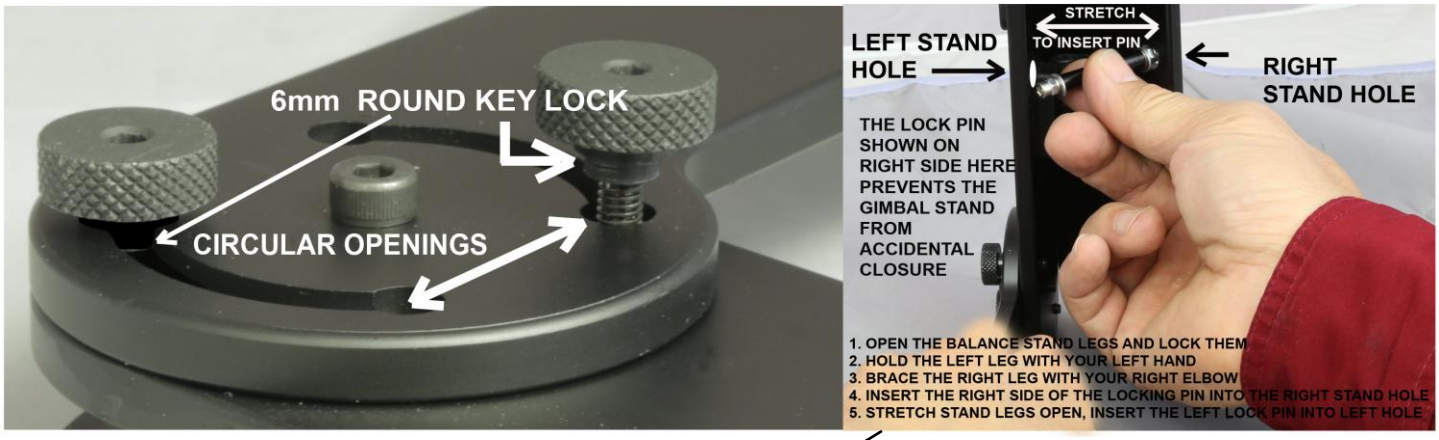
1) Mount your AllSteady-7 with the power off.
2) Align the AllSteady-7 so that the camera lens will be lined up with the long top handle bar
3) Using the handles, rotate the gimbal 5-10 degrees and observe which way the pan rotates.
4) If the lens points to the low side, it means that the gimbal is "nose heavy" and the Pan knuckle needs to slide backwards.
5) If the back of the gimbal points to the low side, it means that the gimbal is "tail heavy" and the Pan knuckle needs to slide forward.
6) Loosen the thumb screw (similar to the one on the roll axis) just enough for the knuckle to slide.
7) Slide the gimbal in the direction needed as advised in Steps 4 & 5.
8) Tighten the thumb screw just enough to hold the pan knuckle while you balance for left/ right (as advised in the next section)
9) When you rotate the AllSteady handles, confirm that the camera will not swing to the left or right. This ensures proper forward and backward balance.

FOR LEFT/ RIGHT BALANCE:

1) Mount your AllSteady in the stand with the lens pointing forwards (perpendicular to the main handle cross tube).
2) Using the handles, rotate the gimbal 5-10 degrees, so the lens is pointing up and observe which way the pan rotates.
3) If the gimbal rotates the lens to the left, it means that the Pan Axis vertical tube needs to be rotated counter clockwise.
4) If the gimbal rotates the lens to the right, it means that the Pan Axis vertical tube needs to be rotated clockwise.
5) Rotate the Pan Axis vertical tube in the direction as advised on Steps 3 & 4.
6) Tighten the pan knuckle and double check that the for/back and left/right balance are still properly balanced. Please note that it may take a few iterations to achieve a perfect balance. Just take your time and follow the steps as closely as you can. The more time spent balancing you gimbal will help you achieve better and more stable footage.

IV. GIMBAL BALANCING STAND

Before using the stand, please make sure the 6mm diameter round-key lock (which is located below the thumb screw-head) is completely inserted within the circular opening of the track. These screw keys will lock the arms into position and prevent the stand from closing. Brand new units usually require a hex driver to break in the openings. You may need to jiggle the arm while inserting the screw. After the arms have been locked into place, open the legs of the stand and insert the provided lock pin as shown on the right figure below. A list of steps are provided in the picture


6mm ROUND KEY LOCK
CIRCULAR OPENINGS
LEFT STAND HOLE
STRETCH
TO INSERT PIN
RIGHT STAND HOLE
THE LOCK PIN SHOWN ON RIGHT SIDE HERE PREVENTS THE GIMBAL STAND FROM ACCIDENTAL CLOSURE
1. OPEN THE BALANCE STAND LEGS AND LOCK THEM
2. HOLD THE LEFT LEG WITH YOUR LEFT HAND
3. BRACE THE RIGHT LEG WITH YOUR RIGHT ELBOW
4. INSERT THE RIGHT SIDE OF THE LOCKING PIN INTO THE RIGHT STAND HOLE
5. STRETCH STAND LEGS OPEN, INSERT THE LEFT LOCK PIN INTO LEFT HOLE

1.) Open the balance stand legs and lock them into place
2.) Hold the left leg with your left hand
3.) Brace the right leg with your right elbow
4.) Insert the right side of the locking pin into the right stand hole
5.) Stretch stand legs open and insert the left lock pin into the left hole.

V. OPTIONAL EQUIPMENT

Articulating Monitor Arm Installation Guide

The articulating arm is an extension of the monitor bracket that allows the monitor to be moved freely and be placed at multiple angles for viewing. Please advise to the following steps below:

1.) Align the 6mm diameter-articulating-arm screw to the open slot of the bracket.
2.) At the slot opening, locate the indented cavity.
3.) Please turn the arm in a clockwise manner or else the screws will not be fitted inside the opening properly.
4.) Next align the 2 flat keys of the arm to the slotted cavity. The flat keys are designed to prevent the bracket from turning during operation.

Micro Roll balance Module Installation Guide

The optional micro balancing module comes with one Tool-less Micro-Roll Adjustment wheel with 4mm threaded screw shaft, 2 four washers, 2 flange bearings, 2 thrust bearings, each containing two rings with grooves, one ball bearing and one nut.

1) Start by inserting both of the 4mm washers into the screw shaft of the thumb wheel.
2) Insert the flat side of the thrust bearing ring facing the washer. The groove side faces the other side.
3) Insert the thrust steel ball bearing- No preference which side in first then insert the other thrust bearing ring with the ball bearing groove facing the bearing.
4) Insert the flange bearing with the flange facing the thrust bearing
5) Insert the completed micro balance adjustment module into the bottom of the motor side bracket. The adjustment wheel must be inserted from the tilt motor side.
6) Insert the flange bearing with the flange facing the camera mounting bracket
7) Insert the thrust bearing with the groove side facing the camera tray
8) Insert the thrust ball bearing- Again no side preference
9) Insert the other thrust bearing ring with the groove side facing the bearing.
10) Insert the 4mm nut

Align the thumb wheel screw to the side hole of the camera tray and turn the nut and the micro adjustment wheel clockwise to engage. Sandwich the balancing wheel assembly to the camera side bracket while screwing into the camera tray at the same time. Please make sure the first flange bearing is completely inside the cavity of the side camera bracket. As for the second flange bearing, the flange is outside facing the camera tray and not fully inserted the bracket cavity. Please note that there are 4 M3 screws under the camera tray and they have been factory adjusted to give you just enough drag to turn the wheel and lock the camera tray. The concept is that if these crews are too tight, you will have difficulty in turning the micro balancing wheel. If they are not tight enough, the camera will be a little loose on the tray causing the gimbal to shake during operation.

VI. PROGRAM MODES

The Allsteady 7 offers 5 programmed modes; each mode having the ability to be switched by pressing the button located behind the joystick. These modes are perfect for achieving different shots and can be very useful.

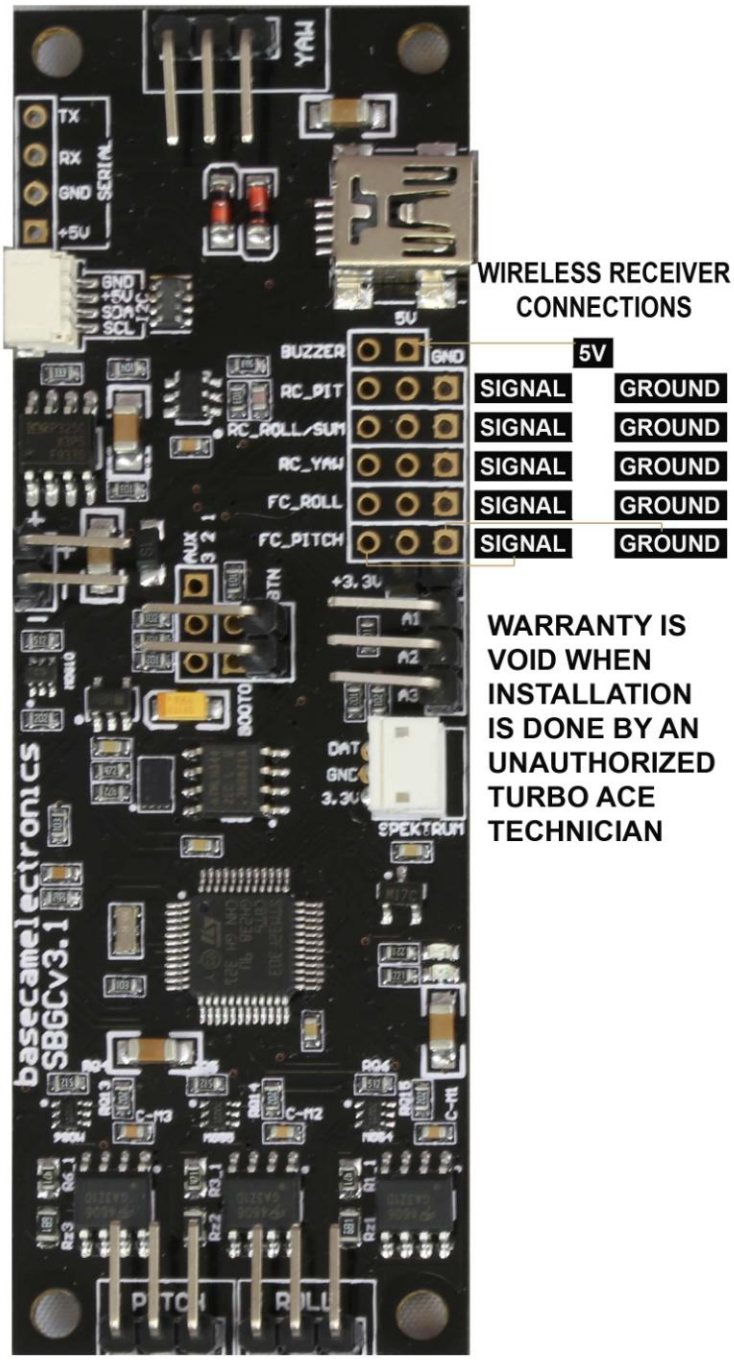
Note: The default setting is **Mode 4**. That means any time the AllSteady-7 is powering up, that is the mode it is automatically set to.

- **Mode (1)**
  - This mode will put your gimbal in **No Follow**. This means the gimbal will only stabilize and will always be looking forward.
  - To change the user to Mode 1, please press the button **once.**
- **Mode (2)**
  - This mode will put your gimbal in **Pan Follow**. This means that only to top pan motor will follow wherever the handles go. So if you pan the handles to the left or right you will notice the camera would follow.
  - To change the user to Mode 2, please press the button **twice**.
- **Mode (3)**
  - This mode will put your gimbal in **Full Follow Slow**. This means the gimbal will follow in both pan and the pitch. If you tilt the handles up you will see the camera follow upwards. If you pan the handles right or left you will also see the pan follow.
  - To change the user to Mode 3, please press the button **three times**.
- **Mode (4)**
  - This mode will put you r gimbal in **Full Follow Medium Speed**. This means the gimbal will follow for both pitch and pan at a quicker speed relative to Mode 3
  - To change the user to Mode 4, please press the button **four times**.
- **Mode (5)**
  - This mode will put you r gimbal in **Full High Speed**. This is the fastest speed for any of your **Full Follow** modes and acts the same as your previous two Modes.
  - To change the user to Mode 5, please press the button **five times**.

VII. INVERTED and SIDEWAY SHOOTING

The Allsteady 7 can operate in upside down or brief case side way mode. For upside down mode, make sure the gimbal is in mode 2,3,4 or 5 by pressing the mode switch behind the joystick. Rotate the side handles 180 degrees so they are pointing up. Slowly flip the gimbal upside down by rotating it backwards similar to a gymnast doing a somersault. You can also shoot in brief case mode (gimbal is carried like a brief case on the side of your body), first switch to mode#1 steady mode by press the button behind the joystick once. Next pan the camera 90 degrees clockwise with the joystick so it is pointing to the right handle. Flip the handle bar 90 degrees so the right hand is on top. This handle will be your brief case handle so you can shoot with one hand. Finally change mode#1 to any of the other modes to operate.

VIII. WIRELESS RECEIVER CONNECTIONS



- *Use the image on the left as a guide to hook up your gimbal wirelessly so that you may control it with a transmitter instead of the joystick.*

IX. SOFTWARE

There is a free download for a program that allows you to set your preferences for how the gimbal should react to various movements, as well as the ability to fine-tune the balance of the gimbal further than the manual calibrations as described previously.

System Requirements:

Windows / Mac OSX / Linux
7.5 MB storage space

Software Download:

http://www.basecamelectronics.com/downloads/32bit/

Software Manual Download:

http://www.basecamelectronics.com/files/v3/SimpleBGC_32bit_manual_2_41_eng.pdf